

XR SYSTEMS FOR OPERATION REDWING

INTRODUCTION

At the request of Los Alamos Scientific Laboratory and University of California Radiation Laboratory, Livermore Site, Sandia Corporation has prepared external initiator equipment for use in Operation REDWING. The external initiator equipment (XR) in general consists of a pulsed neutron source (S-Unit) similar to those used in Operation TEAPOT, designed and constructed by the General Electric X-Ray Department, a time delay circuit designed at Sandia Corporation and a power supply (MC 251 inverter). The purpose of this report is to describe the XR apparatus, systems and applications for Operation REDWING.

Requirements

The following is a summary of the shots for which XR is planned:

Shot Name	Ready Date	Responsible Laboratory	Device Being Initiated
LaCrosse	May 1	LASL	
Inca	June 8	UCRL	
Yuma	June 1	UCRL	
*Kickapoo	June 18 ^{4/18}	UCRL	
Erie	May 23	LASL	
Seminole	May 28 ^{4/1}	LASL	
Flathead	June 2 ^{4/1}	LASL	
Blackfoot	June 7 ^{4/1}	LASL	
*Mohawk	July 1	UCRL	
Huron	June 12	LASL	
Apache	July 1	UCRL	
Dakota		LASL	
Pawnee		LASL	

DOE
b(3)

For purposes of XR requirements the shots are broken into three groups. These groups are listed below with associated neutron requirements:

Type Group	Shot Name	Neutron Output per S-Unit	No. of S-Units Required
I			2
I			2
I			2
II			2
II			2
II ^{4/1}			2
II			2
III			4
III			4
III			4
III			4
III			4
III			4

Four S-Units may be required

DOE b(3)